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GENERATOR



January 22, 1958

CONFIDENTIAL

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Dear Sir:

This letter report describes the activity under Task Order No. C from December 1, 1957, through January 10, 1958.

The 1/5-scale hydrogen-generator unit was set up and this, together with the contemplated experimental generation arrangement, was inspected. One of the zippers leaked water and temporary repairs were made. Also, it was found necessary to modify the hydrogen exhaust line so as to reduce the possibility of forming explosive mixtures at the point of hydrogen discharge into the atmosphere.

The first generation test, at 1/10 scale, was conducted using 415 grams (0.914 pound) of cobalt chloride and an amount of sodium borohydride, based on 95 per cent purity, sufficient to yield 350 cubic feet of hydrogen; the quantity of cobalt chloride used was based on the data obtained in our previous studies (Table 16 of Summary Report on Task Order No. C, dated January 28, 1957). The total actual yield was 288 cubic feet of hydrogen. The difference between this and the theoretical yield is being investigated; it is currently attributed to the inaccuracy of the scale used to weigh the batch of sodium borohydride. It was noted that 258 cubic feet of hydrogen was generated in 65 minutes.

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The results of this first run are quite promising. Another 1/10-scale test will be conducted. If this is equally successful, the next generation test will probably be run at 1/5 scale.

The original appropriation on this Task Order was \$18,285. As of January 1, 1958, the unexpended balance was approximately \$12,500.

Sincerely,



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In Duplicate

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